

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTS

REC'D 27 JUN 2005

(Chapter II of the Patent Cooperation Treaty)

PATENT

PCT

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference 118719 | FOR FURTHER ACTION | | See Form PCT/IPEA/416 |
| International application No. PCT/AU2004/000768 | International filing date (day/month/year) 10 June 2004 | Priority date (day/month/year) 11 June 2003 | |
| International Patent Classification (IPC) or national classification and IPC Int. Cl. 7 C07H 3/06, G06F 19/00 159:00 | | | |
| Applicant PROTEOME SYSTEMS INTELLECTUAL PROPERTY PTY LTD et al | | | |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
- 3.. This report is also accompanied by ANNEXES, comprising:
 - a. (*sent to the applicant and to the International Bureau*) a total of sheets, as follows:
 - sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:

| | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

| | |
|---|---|
| Date of submission of the demand 7 April 2005 | Date of completion of the report 7 June 2005 |
| Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929 | Authorized Officer K. LEVER Telephone No. (02) 6283 2263 |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/000768

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:

- international search (under Rules 12.3 and 23.1 (b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished

the description:

| | |
|--------|---|
| pages | as originally filed/furnished |
| pages* | received by this Authority on with the letter of |
| pages* | received by this Authority on with the letter of |

the claims:

| | |
|--------|---|
| pages | as originally filed/furnished |
| pages* | as amended (together with any statement) under Article 19 |
| pages* | received by this Authority on with the letter of |
| pages* | received by this Authority on with the letter of |

the drawings:

| | |
|--------|---|
| pages | as originally filed/furnished |
| pages* | received by this Authority on with the letter of |
| pages* | received by this Authority on with the letter of |

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (*specify*):
- any table(s) related to the sequence listing (*specify*):

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (*specify*):
- any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/000768

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

| | | |
|-------------------------------|-------------|-----|
| Novelty (N) | Claims 1-17 | YES |
| | Claims | NO |
| Inventive step (IS) | Claims 1-17 | YES |
| | Claims | NO |
| Industrial applicability (IA) | Claims 1-17 | YES |
| | Claims | NO |

2. Citations and explanations (Rule 70.7)

ETHIER et al.

This document describes a new computer program for automated interpretation of MS spectra of complex N-linked glycans. The MS results are simplified and the results formed into a relationship tree which indicates how the fragments are linked. Algorithms calculate a score or rank of each potential structure depending on agreement with the experimental data. This document does not disclose or suggest the final step in the process that is; when insufficient confidence is obtained in the highest ranked score, the step of repeating the process by taking into account more complex cleavage patterns in a theoretical fragmentation step or by obtaining further fragments.

JOSHI et al

This document was published later than the filing date of the current application thus does not impact on novelty or inventive step but is closely related to the current invention. The Overview on page 1655 is the same process as the current application.

WO 1995025281

This documents a process for identifying proteins using mass spectra data of a protein fragment of an unknown sequence and comparing it with stored values. A ranking or score is determined for the likelihood of the next subsequence fragment in the sequence. The process while similar to that of the current application, does not determine the structure of proteins and is not contemplated for use with glycans. Thus does not impact on novelty or inventive step.

Therefore claims 1-17 are considered novel and to have an inventive step.

Claims 1-17 are considered to be industrially applicable.